

## Grand Marais Harbor Breakwater/Wall Narrative 2011

Michigan Natural Resources Trust Fund and Michigan Waterways Commission

### SUMMARY

- A 5,770 foot, wood piling breakwater/wall was built by the U.S. Army Corp of Engineers to protect Grand Marais Harbor in 1895. It fell completely apart in the 1950s and it needs replaced.
- 104,000 cubic yards of sedimentation is annually being deposited into the harbor from Lake Superior. This situation has already partially destroyed the harbor, and in the next three to five years, the harbor will not be accessible coming in from or out to Lake Superior.
- There are five options for a new breakwater/wall that will protect the harbor ranging from \$7 million to \$34 million. The Township Board does support the \$7 million option.
- The small community of Grand Marais is in desperate need of \$5 million to implement the \$7 million option.
- The breakwater/wall must be built for the following reasons:
  - Five lives have been lost from the circumstances created by the non-functioning breakwater/wall. More lives will be lost if a new one is not built soon.
  - Losing Grand Marais Harbor means the loss of the only designated harbor of refuge along the 90 mile stretch of the "Shipwreck Coast" on Lake Superior between Whitefish Point and Munising.
  - The harbor is the gateway to Lake Superior for boaters coming from the east and is critical for those seeking water access to Pictured Rocks National Lakeshore Park. Without a functioning Grand Marais Harbor, there will be no recreational boating economy which means no tourism economy on the east end of Lake Superior.
  - Rescue vessels are having great difficulty launching. In fact, during certain times of the year, it is impossible for emergency personnel to help anyone in distress out on the water.
  - Swimming has become unsafe due to the formation of dangerous rip currents.
  - The economy of this very small northern Michigan community is the tourism industry. Without the harbor, the town of Grand Marais will not exist and the region will lose tourism dollars.
  - The loss of wildlife habitat has already been enormous, and without a breakwater/wall, habitat for certain species will be completely obliterated.

## Grand Marais Harbor Breakwater/Wall Narrative 2011

### Michigan Natural Resources Trust Fund and Michigan Waterways Commission

#### **PROJECT DESCRIPTION**

The proposed project is to construct a breakwater/wall to replace the former 5,770 foot breakwater/wall to stop the estimated 104,000 cubic yards of sediment from entering the harbor and completely destroying the state and federally designated Harbor of Refuge at Grand Marais.

#### **BACKGROUND**

In a report by H.G. Wright, Chief of Engineers for the U.S. Army, dated Aug. 5, 1881 to the U.S. Congress, a recommendation was made to protect the harbor at Grand Marais. In 1883, two parallel jettys were constructed, followed by a 5,770 foot wood piling driven breakwater/wall built in 1895 by what is known today as the U.S. Army Corps of Engineers.

Following WWII, maintenance on the breakwater/wall by the federal government ceased and the deterioration of Grand Marais Harbor slowly began.

In 1961, the U.S. Army Corps of Engineers chose to extend the western jetty structure but did not do any work to the badly dilapidated breakwater/wall.

By 1970, the pace of the damage began to significantly pick up and the change in topography started to be very noticeable. Currently, the eastern half of the harbor known as East Bay has been completely annihilated from the sediment sand being brought in from Lake Superior.

During the Michigan legislative session in 1978, State Representative Dominic Jacobetti announced plans to provide a supplemental appropriation for the breakwater/wall at Grand Marais. At the same time, U.S. Senator Robert Griffin requested a public works appropriation from Congress with both efforts being supported by Gov. William Milliken. However, neither came to fruition due to the lack of support from the U.S. Army Corps of Engineers.

In October 1978, the U.S. Army Corps of Engineers completed a report detailing the damages at Grand Marais Harbor. At that time, the report estimated that 50,000 cubic yards of sediment sand per year were being deposited in the east side of the harbor.

During 1992, U.S. Senator Carl Levin was successful in getting a study authorized under the Water Resources Development Act. However, the U.S. Army Corps of Engineers refused to request the \$100,000 needed to complete the study.

## Grand Marais Harbor Breakwater/Wall Narrative 2011

### Michigan Natural Resources Trust Fund and Michigan Waterways Commission

By the mid-1990s, the frustration of the Grand Marais community began to grow. In November 1996, the community passed a ¼ mill property tax to fund the construction of the breakwater/wall. The additional property tax has been renewed by the voters three times since, generating \$12,000 annually.

State Senator Walter North introduced and passed Senate Concurrent Resolution 41 (1997) and State Representative Mike Prusi introduced and passed House Concurrent Resolution 54 (1997). Both resolutions urged the U.S. Army Corps of Engineers to restore and maintain the harbor of refuge at Grand Marais. In response, the U.S. Army Corps of Engineers officials stated that Grand Marais Harbor, in the national scope of interest, was a low priority.

In October 1998, U.S. Senators Carl Levin and Spencer Abraham co-sponsored an amendment to a Treasury Department appropriation bill earmarking \$50,000 for a sediment control study in Grand Marais Harbor. In December 2000, a study called the **Grand Marais Harbor Rehabilitation Design Alternatives** was completed by the Ocean Engineering Laboratory at the University of Michigan (U of M) for Michigan Sea Grant Collage Program. The report concluded that 104,000 cubic yards of sediment sand was entering the harbor each year and unless a new breakwater/wall was built, the harbor would not exist at some point in the near future.

October 2003: The U.S. Army Corps of Engineers completed another report, **Major Rehabilitation Evaluation Report**, basically concluding that the problem at Grand Marais was in fact accelerating.

January 2004: A **Design Documentation Report** was completed by W.F. Baird & Associates in association with NTH Consultants Inc. & Coleman Engineering Co., offering different options for a new breakwater/wall.

September 2006: A **Shoreline Evaluation Modeling Report** was completed by W.F. Baird & Associates, offering that the current situation was not good for the shoreline of Grand Marais.

November 2006: A **Biological Assessment** was completed by the U.S. Army Corps of Engineers concluding that the sediment was still coming into the harbor and it was still a problem.

March 2009: A meeting was held with the Township Supervisor, U.S. Army Corps of Engineer staff, Fish and Wildlife staff and representatives from Senator Levin, Senator Stabenow and Congressman Stupak's offices to discuss design alternatives. Five options were presented and discussed. Each option, beginning with a 55 degree/2,200 foot design breakwater/wall to a 7,000 foot breakwater/wall were discussed, each having both positive and negative aspects to them. They are summarized as follows:

## Grand Marais Harbor Breakwater/Wall Narrative 2011

### Michigan Natural Resources Trust Fund and Michigan Waterways Commission

**Option 1: 2,200 foot structure running at a 55 degree angle**

- **Positive:** Cheapest way to build structure, guaranteed to work (\$7M)
- **Negative:** The alignment will result in losing more than 1/3 of the current harbor. Approximately 20 property owners lose harbor frontage.

**Option 2: 2,200 foot structure built on previous breakwater/wall alignment**

- **Positive:** 2<sup>nd</sup> cheapest way to build structure (\$8M)
- **Negative:** Concerns about it solving the problem. It may not be long enough to do the job when placed along the old breakwater/wall alignment.

**Option 3: 3,195 foot structure built on previous breakwater/wall alignment**

- **Positive:** Probably the ideal cost/benefit, it will save most of the harbor area.
- **Negative:** \$12 Million

**Option 4: 5,770 foot structure built on previous breakwater/wall alignment**

- **Positive:** Will work well
- **Negative:** \$26 Million

**Option 5: 7,000 foot structure built on previous breakwater/wall alignment**

- **Positive:** Will work perfectly
- **Negative:** \$34 Million

Subsequently, a meeting of the electors was held in Grand Marais and a Resolution passed by the Township Board of Trustees to support the 55 degree/2,200 foot \$7 million option. This was a very difficult decision for the Grand Marais community to make because it sacrifices more than 1/3 of the current harbor and many land owners will lose harbor frontage. However, many believe it was necessary to support this option due to the fact the 2,200 foot breakwater/wall can be built for \$7 million vs \$34 million. It will work and it needs to be done absolutely as soon as possible. This support was also in great hopes that the U.S. Army Corps of Engineers would build it in 2010.

## Grand Marais Harbor Breakwater/Wall Narrative 2011

### Michigan Natural Resources Trust Fund and Michigan Waterways Commission

January 2010: The U.S. Army Corp of Engineers published a public notice documenting the need for reconstruction of the breakwater/wall along with findings that the project will not have significant environmental impacts.

As of this date, there is no indication from the U.S. Army Corp of Engineers that they plan on building the breakwater/wall beyond participating with \$1.8 million.

#### **THE NEED FOR THE GRAND MARAIS BREAKWATER/WALL**

Grand Marais Harbor is needed for safety, commerce and tourism, none of which will exist without construction of a breakwater/wall.

The harbor at Grand Marais is located midway between Whitefish Point and Munising, which spans approximately ninety miles along the "Ship Wreck Coast" of Lake Superior. The harbor at Grand Marais is designated as a state and federal Harbor of Refuge.

#### **IMPACT OF THE BREAKWATER/WALL**

Loss of the breakwater wall has left the harbor unprotected and without it, Lake Superior has eroded huge amounts of sediment from the sand dunes located east of Grand Marais into the harbor. By 1970, the East Bay of the harbor was well underway to being filled with sediment sand, and it was estimated by the U of M study that 104,000 cubic yards (approximately 6,000 semi truck loads) of sediment sand is coming into the Grand Marais Harbor annually. There is no question that within the next three to five years, Grand Marais Harbor will not be able to function.

Loss of the breakwater/wall has had and is having enormous negative economic, ecological, environmental and emotional impacts on the Grand Marais community. In addition to East Bay being completely gone, Grand Marais has lost a township park along with several homes and properties that no longer exist. Lonesome Point, located on East Bay, and Gull Island, located on the east end of Grand Marais Harbor, are now gone forever.

Boats (recreational, commercial, and research) consistently seek refuge in Grand Marais Harbor, and in recent years, it is becoming increasingly difficult and dangerous for both those seeking refuge and the citizens that try to help them. During storms, watercraft in the harbor are subject to violent waves and currents coming in uninterrupted from Lake Superior. These vessels many times are even unable to dock due to the huge amounts of sedimentation making the marina inaccessible.

The loss of wildlife habitat has already been substantial. Gull Island, which no longer exists due to the deterioration of the current breakwater/wall, was home to seagulls, sand pipers, piping plover and many other species of birds. The loss of East Bay eliminated ideal habitat for the coaster brook trout,

## Grand Marais Harbor Breakwater/Wall Narrative 2011

### Michigan Natural Resources Trust Fund and Michigan Waterways Commission

steelhead, whitefish, northern pike, walleye and other aquatic species. The increasing sediment in the harbor has decreased the water depth eliminating weed beds and covering gravel beds to the point that fish have lost a vast amount of habitat in the harbor.

However, by far the most negative impact that the loss of the breakwater/wall has had on the Grand Marais community and the best illustration that exemplifies the pressing need to construct a new one is the loss of lives directly due to the lack of a breakwater/wall.

In October of 2006, a boat containing four people left Grand Marais Harbor and went out on Lake Superior to fish during a nice sunny fall afternoon. As often is the case, without warning, a storm unexpectedly came up, and the wind gusts and waves overturned the vessel. As the boaters became overdue and emergency responders kicked into action, the grim reality immediately became apparent to everyone involved that the emergency rescue vessel was not able to launch due to the build up of sedimentation within the marina. After several hours, a rescue helicopter arrived from Traverse City and conducted a 12 hour search. One of the four boaters, who managed to climb onto the capsized boat, somehow survived for 14 hours and was rescued.

Willard Handrich, a 90 year old respected, retired local businessman and founder of the Grand Marais Mennonite Church, and his son from Laramie, Wyoming Eldon Handrich who was an ER doctor and rancher along with wife Maggie Handrich, an ER nurse, were all victims of this very fixable problem at the harbor. Had the breakwater/wall at Grand Marais been functional and emergency personnel were able to do their jobs quickly, the odds are there would have been more survivors.

In August of 2010, Doug Smith, 50 and his son Eric Smith, 16 both from Oxford, MI were in Grand Marais visiting relatives. They both went for a swim along the shore of the harbor and both ended up drowning as a result of being caught in a rip current. Without a breakwater/wall, the harbor now experiences the same forces as Lake Superior, and swimming, even within the harbor, has become dangerous.

The economy of this very small community and the region depends entirely on Michigan's tourism industry. The harbor draws visitors from all over the country who enjoy boating, kayaking, fishing, swimming, seaplane fly-ins, and other outdoor activities. If the harbor does not exist, the fact is Grand Marais will no longer exist.

## Grand Marais Harbor Breakwater/Wall Narrative 2011

### Michigan Natural Resources Trust Fund and Michigan Waterways Commission

#### **FUNDING**

Total project cost for construction of the lowest cost breakwater/wall is \$7.0 million.

There is \$1.8 million available for this project through the U.S. Army Corps of engineers.

In 1996, Burt Township voted for an additional property tax millage to support the harbor restoration project. The township's campground is also under a special assessment to help the effort. Combined, \$100,000 is available from the local unit of government.

A local citizens group called the **Grand Marais Harbor Committee** ([saveyourharbor.com](http://saveyourharbor.com)) has been actively seeking additional funding since the mid 1990s. For example, every summer the committee sponsors a fundraiser so that people visiting Grand Marais can help. To date, \$50,000 has been raised from the Harbor Committee's efforts. The Harbor Committee also secured a \$10,000 grant from the Great Lakes Foundation.

In November 2010, Grand Marais entered the *Reader's Digest "We Hear You America"* contest along with 9,000 other towns from across the U.S. The communities were asked to describe a public infrastructure need. Then, during the next three months, individuals throughout the country voted or "**cheered**" for the town they thought had the most meaningful public project.

Grand Marais' population of 300 was one of the smallest towns entered into the competition. However, as the story was told across the U.S. about the destruction of the harbor and the efforts of the Grand Marais community via social media, America voted for the project. When the final tallies came in, Grand Marais won.

1,281,724 votes were cast in support of fixing the Grand Marais Breakwater/wall. The \$40,000 first-prize from *Readers Digest* will be used for the project.

## Grand Marais Harbor Breakwater/Wall Narrative 2011

### Michigan Natural Resources Trust Fund and Michigan Waterways Commission

#### Funds Needed

U.S. Army Corps of Engineers	\$1,800,000
Grand Marais/Burt Township	\$100,000
Reader's Digest Contest Grant	\$40,000
Harbor Committee Fundraisers	\$50,000
Great Lakes Foundation Grant	\$10,000

<b>Proposed Michigan Natural Resources Trust Fund/Michigan Waterways Grant</b>	<b>\$5,000,000</b>
--	--------------------

---

<b>Total Funds Requested</b>	<b>\$7.0 million</b>
------------------------------	----------------------